

TAXONOMIC NOTES ON SOME AFRICAN WARBLERS
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ABSTRACT

Notes on geographic variation are presented for six species of African warblers: *Chloropeta similis*, *Cisticola chiniana*, *Apalis jacksoni*, *Apalis porphyrolaema*, *Apalis cinerea*, and *Sylvietta leucophrys*. Two new subspecies of *C. chiniana* are described from Tanzania, and one new subspecies of *S. leucophrys* from Uganda.

INTRODUCTION

During the course of incorporating the Twomey collections of African birds (see Parkes, 1980 for history of these collections) into the main series at The Carnegie Museum of Natural History, I encountered several taxonomic problems that could not be solved with the material at hand. The pertinent specimens were therefore taken to the American Museum of Natural History for further study. As a followup, critical specimens of certain species were borrowed from other museums (see Acknowledgments). This paper presents the results of these studies. Species discussions are given in the sequence of Traylor (1986). The present paper was essentially completed before the publication of that book, but minor modifications have been made in the manuscript to cite Traylor where appropriate. Distances are given metrically *except* when cited from original labels or publications.

Abbreviations for museums: AMNH, American Museum of Natural History; ANSP, Academy of Natural Sciences of Philadelphia; BM(NH), British Museum (Natural History); CM, Carnegie Museum of Natural History; FMNH, Field Museum of Natural History; LACo, Los Angeles County Museum; MCZ, Museum of Comparative Zoology, Harvard University; UMMZ, University of Michigan Museum of Zoology; USNM, United States National Museum of Natural History; YPM, Peabody Museum of Natural History, Yale University.

Chloropeta similis

Direct comparison of a series of 9 topotypes of *similis* from Mt. Kilimanjaro with 11 topotypes of *kenya* Sharpe from Mt. Kenya indicates that Friedmann (1937:234) was correct in synonymizing the latter with *similis*. Sharpe (1901), in describing *kenya*, compared it only with *natalensis*, now considered a separate species, and apparently overlooked the description of *similis* by Richmond in 1897. In series, the Mt. Kilimanjaro birds average faintly browner, less greenish on the dorsum, but the series overlap broadly. There appears to be no significant change in dorsal coloration owing to museum age ("foxing"); all of the Mt. Kilimanjaro series were collected in 1920-1921, but Mt. Kenya specimens were taken in 1926, 1936, and 1963, and show no age-related differences.

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Friedmann (1937:234) did not examine specimens of *Chloropeta schubotzi* Reichenow, described from the Rugege Forest, east of Lake Kivu (now in Rwanda), but synonymized it with *similis* on the basis of notes by other authors. Reichenow (1908) compared his *schubotzi* only with "*Ch. major*" (= *Chloropeta natalensis major* of Angola) and not with either *similis* or *kenya*.

Comparison of one topotype and a series of 19 specimens from Kivu, Baraka, and Ruwenzori assigned to "*schubotzi*" at the AMNH with the 20 specimens of *similis* from Kenya mentioned above failed to demonstrate the darker back attributed by some authors to this supposed western race. I concur with Friedmann and others who have synonymized *schubotzi* with *similis*.

Within Kenya, comparisons were made between the Mts. Kilimanjaro/Kenya series and a series from the Aberdare Range and the vicinity of the Mau Escarpment, just to the west. The Aberdare/Mau series, which triggered this investigation, averages noticeably brighter (yellowier) above, especially on the forehead, but the differences are subtle and individual specimens would be difficult to allot. The best course seems to be to continue to consider this species to be monotypic, as Traylor (1986) has done, admitting that there are some incipient tendencies toward geographic differentiation.

Cisticola chiniana

Before beginning the discussion of this species, a note on the plumages of *Cisticola* is in order. It is well known that some populations of this genus have two distinctive seasonal plumages, whereas others have the same aspect all year round. It is fairly clear from the account by Lynes in his classical monograph of this genus (1930:41) that those forms that do not change in appearance *do not* nevertheless have two molts annually: "... a perennial dress which is renewed only once a year during a brief off-season." As the term "off-season" is sometimes used in older literature in connection with a "non-breeding" or "eclipse" plumage, it should be made clear that Lynes used it merely to indicate a *time of year* when no breeding takes place, i.e., during the molt. Lynes used the terms "perennial mode" and "seasonal mode" to differentiate the one-plumage and two-plumage annual cycles in *Cisticola*. His description of the plumage sequence in the perennial mode (p. 44) makes it clear that his "immature dress" is the First Basic Plumage of Humphrey and Parkes (1959), which is highly variable, among species and undoubtedly among populations of *Cisticola*, as to duration and appearance. Even though the terms may seem inappropriate for Africa, Lynes uses "winter dress" and "summer dress" for the seasonal plumages of *Cisticola*; these correspond functionally to the non-nuptial and nuptial plumages of many authors, and from a homology viewpoint, to the Basic and Alternate plumages of Humphrey and Parkes (1959). The Alternate Plumage has thus evolved in some but not all populations of *Cisticola*; it is particularly interesting to note that the Basic Plumage of some of the forms with the perennial mode resembles in color the Alternate Plumage and in others the Basic Plumage of those forms with a two-plumage cycle. One of the few species in which both modes can be found, with implications for geographic variation, is *Cisticola chiniana*.

Geographic variation in this species in Tanzania is complex. Lynes (1930) attributes four races to this country: *procera* Peters in the southeast, *heterophrys* Oberholser in the east, *fischeri* Reichenow in the central and northern interior, and *victoria* Lynes in the Victoria Nyanza basin in the north. Vincent (1944) divided the range attributed to *procera* by Lynes into northern and southern

components, describing the more northern subspecies (the one that would reach southeastern Tanzania) as *emendata*, and stating that this action had the support of Lynes, who had been dissatisfied with his own 1930 concept of *procera*. White (1962) substantially altered the arrangement of Tanzanian races of *C. chiniana*. He synonymized *emendata* with *procera*, thus returning to the treatment of Lynes for the southeastern area. He synonymized *victoria* with *fischeri*, thus admitting only one subspecies across northern and north-central Tanzania, from the eastern and western shores of Lake Victoria south to Tabora. However, he added another subspecies to the Tanzanian list. He identified the populations of the northeastern highlands, along the Kenya border, as *ukamba* Lynes, described from the eastern plateau region of Kenya, and those of Lake Rukwa, in the southwest, as *fortis* Lynes, described from interior Angola. Britton (1980) essentially followed White's treatment of subspecific ranges, although without mentioning Tanzania in the range of *ukamba*.

Lynes characterized his race *victoria*, with a type locality on the east side of Lake Victoria, as larger and more boldly marked than *fischeri*, with "the markings giv[ing] the upper side as much a striped as mottled appearance." In synonymizing *victoria* with *fischeri*, White (1962) attributed the large size of the specimens from along the south and east sides of Lake Victoria to intergradation with *humilis* Maderasz of the West Kenya highlands. He did not address the subject of color. I have compared 5 near-topotypical males of *victoria* with five males of typical *fischeri*. The two series differ in size as stated by both Lynes and White; in addition, the black streaks of the mantle are distinctly broader in *victoria*, and the crown is darker brown, with more conspicuous black centers to the feathers; in *fischeri* the crown feathers are only slightly darker in the center than on the edges. The difference in appearance of the crown is well expressed by Lynes's comparison between "striped" (*victoria*) and "mottled" (*fischeri*). There is no difference in underparts color. A series from the Serronea River, in the Serengeti region (ANSP) is more or less intermediate between *victoria* and *fischeri*, and a rather worn male from 10 miles S of Mwanza, on the south shore of Lake Victoria (BM[NH]), also appears intermediate. I am skeptical about White's identification of *victoria* as a population of *fischeri* whose large size is attributable to intergradation with *humilis*. The latter is conspicuously paler dorsally than *fischeri* with more contrasting edges to the tertials, and there is no sign of approach to the color of *humilis* among specimens of *victoria*. Furthermore, the dorsal streaks of *humilis*, although more conspicuous than those of *fischeri*, are as narrow as those of that race, so that the broader streaks of *victoria* cannot be attributed to intergradation with *humilis*. It would appear that *victoria* Lynes is worthy of acceptance, but its exact range and relationships with bordering races will require examination of better material than is now available. I have not seen specimens that would permit me to evaluate the validity of *emendata* Vincent, so I follow White in using the name *procera* for the southeastern Tanzanian populations, without prejudice. I do agree with White that the populations of the Kilimanjaro region, northwest to Lake Natron, are indistinguishable from *ukamba*. Specimens from Loliondo, northwest of Lake Natron, however, are nearest the other Kenyan race, *humilis*. These two races differ more in size than in color; I am unable to appreciate most of the differences suggested by figs. 38 and 39, plate 10, of Lynes (1930), except the more buffy, less grayish edgings of the tertials of *humilis*; the ground color of the crown averages duller in *humilis*, and, contrary to the figures cited above, the streaks on the crown are more distinct in *humilis* than in *ukamba*.

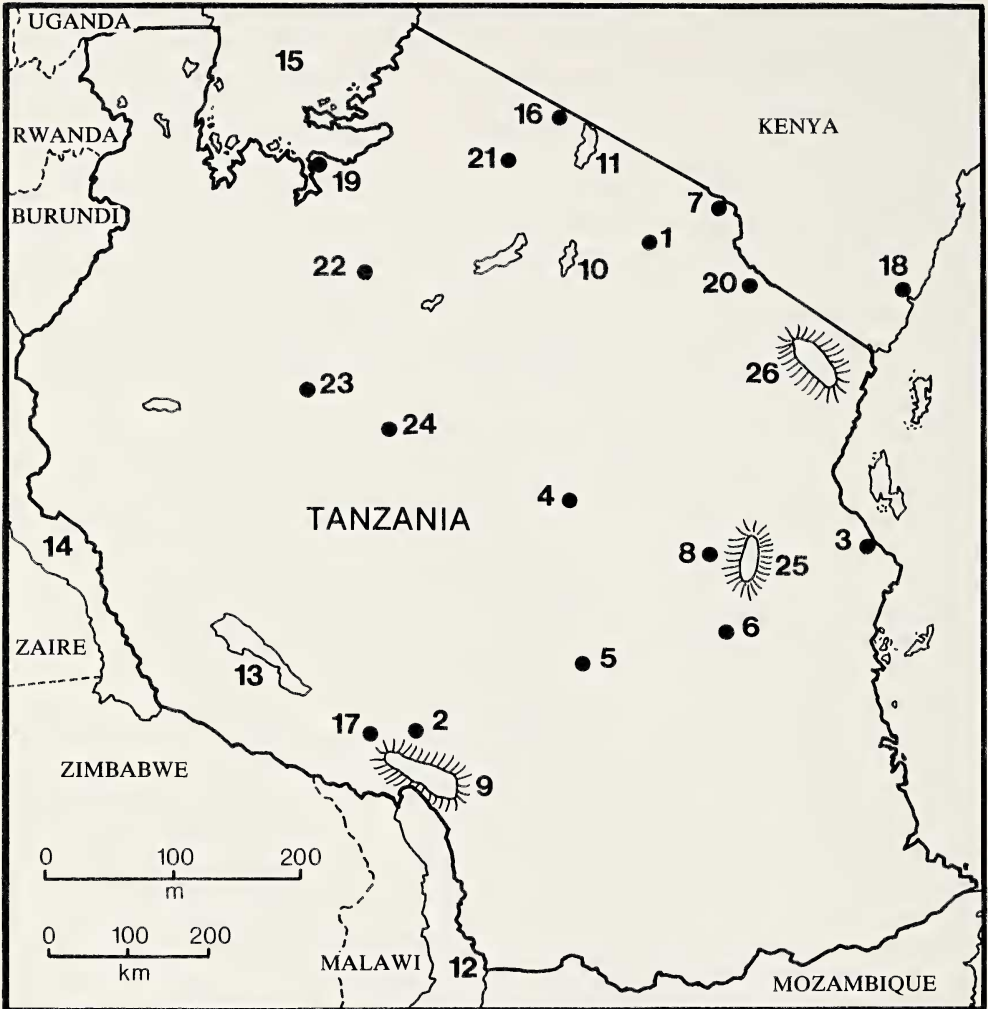


Fig. 1.—Principal localities mentioned in text account of *Cisticola chiniana*. 1. Arusha. 2. Chimala. 3. Dar-es-Salaam. 4. Dodoma. 5. Iringa. 6. Kidodi. 7. Kilimanjaro. 8. Kilosa. 9. Kipangere Range. 10. Lake Manyara. 11. Lake Natron. 12. Lake Nyasa. 13. Lake Rukwa. 14. Lake Tanganyika. 15. Lake Victoria. 16. Loliondo. 17. Mbeya. 18. Mombasa. 19. Mwanza. 20. Same. 21. Serronea River. 22. Shinyanga. 23. Tabora. 24. Tura. 25. Uluguru Mts. 26. Usambara Mts.

A careful reading of the ranges attributed to Tanzanian races of *C. chiniana* by White (1962) and Britton (1980) reveals a large area of the interior of the country missing from any of the range descriptions. Judging from the map of the species' range in Hall and Moreau (1970), part of this gap in range descriptions may reflect an actual lack of records of occurrence, but neither White nor Britton assigns any subspecies to the area southeast of Tabora, where the species does indeed occur. Britton's account seems to suggest that *chiniana* is replaced in the Iringa District of south-central Tanzania by *Cisticola njombe*, but this is true only in the southernmost part of the District, where *njombe* is confined to higher elevations than those reached by *chiniana* in this area. It appears that *njombe* is limited to a

rather restricted habitat, and its relationships are uncertain. Although other recent authors had considered it nearest to *C. lais*, Hall and Moreau (1970) tentatively listed it as forming a superspecies with *C. chiniana*. Britton (1980) stated that *njombe* forms "a superspecies with the allopatric *C. chiniana*," but his concept of superspecies must differ from the usual one, as he placed 12 other species of *Cisticola* between *chiniana* and *njombe*. In the most recent treatment of the genus, Traylor (1986) reverts to placing *njombe* near *lais* rather than *chiniana*. It is doubtful that any sort of competitive exclusion is involved in the relative distributions of *chiniana* and *njombe* in south-central Tanzania.

The ranges given by Lynes are not precisely outlined, but it appears as if the birds from all of central Tanzania should be *fischeri*. However, a series of 27 specimens from the vicinities of Dodoma and Iringa (BM[NH], YPM, CM) indicates that there is a population occupying an area in central Tanzania that differs from *fischeri* in having seasonal plumages. I am indebted to M. A. Traylor, Jr., for calling my attention to an easily overlooked statement by Lynes (1934b). Referring to a series taken at Iringa (BM[NH]), Lynes stated only "The *Cisticola* Review requires correction in respect of *fischeri's* mode of dress"; by this he meant that some of the Iringa specimens, taken in November, were molting, demonstrating that this population does in fact have seasonal plumages, whereas he had attributed the perennial mode to *fischeri* in his 1930 monograph. However, Lynes was mistaken in considering this population to be typical of *fischeri*. I have examined specimens of *fischeri* from elsewhere in its range taken during the months of December through August, and find no seasonal differences other than those attributable to normal wear and fading. Although the "summer" plumage of the birds in the Dodoma/Iringa series is indistinguishable from that of *fischeri*, the "winter" plumage is highly distinctive, and matched in no other population of the species. The BM(NH) series clearly shows that the prealternate molt into "summer" plumage begins in mid-November. Unfortunately no specimens are available from this area taken later than 6 March or earlier than 20 August, the period during which the prebasic molt must take place (see beyond for mention of a worn 20 May specimen from the putative eastern edge of the range of the central Tanzanian race). August and September specimens in the type series are relatively lightly worn.

It may seem to some that a population recognizable during only part of the year should not be given a subspecific name, but a little contemplation will aid in recalling that there is ample precedent among migratory temperate species; the population of *Cisticola chiniana* differs strikingly from these in that it is the Basic rather than the Alternate Plumage that is distinctive. This population of central Tanzania may be called:

Cisticola chiniana keithi, new subspecies

Holotype.—CM 146864, adult male, from 50 miles N of Dodoma, Dodoma (formerly Central) Province, Tanzania, collected 10 September 1960 by A. C. Twomey and John Williams (field no. 2559).

Diagnosis.—Inseparable from *C. c. fischeri* (*sensu* Lynes, 1930) in Alternate ("summer") Plumage. Basic Plumage unlike Alternate Plumage, nearest to the "perennial" (Basic) plumage of *C. c. ukamba* of the highlands of Kenya and northeastern Tanzania, but decidedly paler. The edges of the mantle feathers, tertials, and wing coverts are not merely paler but buffier, less gray. The crown is paler, with black streaks more sharply defined. The pale buff superciliary line

is distinct (obsolete or absent in *ukamba*). The tail is paler and of a more reddish brown, and the flanks and a pale wash across the lower breast are of a yellower, less grayish buff. In the distinctness of the crown streaking, *keithi* resembles *humilis* rather than *ukamba*, but the crown is otherwise much paler than in *humilis*.

C. c. keithi differs most distinctly from the coastal race *heterophrys*, which is a dark, plain-backed form with no streaks on the crown and, in some individuals only, barely discernible blurry streaks in the centers of the dark gray-brown mantle feathers.

There is some noticeable individual variation among the 9 relatively unworn August–September specimens. CM 146844 has the mantle edgings (but not those of the wing feathers including the tertials) more rufescent, approaching those of *procera*, and also has the broadest black mantle streaks. The crown is darkest in YPM 93258 (which also has the grayest edges to the dorsal feathers), palest in CM 146754. The holotype and CM 146844 have the greatest development of the narrow black crown streaks; in YPM 93260 they are almost invisible. Collectively, however, these specimens do not differ *inter se* any more than series of other subspecies, from which they are clearly differentiated.

Range.—Central Tanzania; see *Remarks* for intergradation with adjacent subspecies.

Etymology.—It is a pleasure to dedicate this new subspecies to G. Stuart Keith of the American Museum of Natural History, my mentor in African ornithology.

Remarks.—Eastern Tanzania is occupied by the distinctive *C. c. heterophrys*. A coastal series from Mombasa (the type series in CM) and Diani, Kenya, to Dar-es-Salaam, Tanzania, is quite uniform. The subspecies is not confined to the coastal plain, however. Two specimens from 6200 ft at Lukwangule, southern end of the Uluguru mountains (BM[NH]) and seven specimens (MCZ, BM[NH], USNM) from Kilosa, just west of the Ulugurus and about 225 km SE of the type locality of *keithi*, differ only slightly from the coastal series. They are slightly paler and brighter on the crown, paler and less grayish (more rufescent) on the back, and paler and more reddish brown on the tail. This can be interpreted as a tendency toward *keithi*, but the Kilosa series shows no indication of the marked dorsal streaking so characteristic of *keithi*. On the other hand, two specimens (UMMZ 157561-2) from Kidodi (ca. 160 km E of Iringa, ca. 95 km S of Kilosa) appear to illustrate intergradation with *keithi*. Both Traylor and Storer have annotated the label of UMMZ 157561 as *heterophrys*; it is indeed closest to this race as typified by the type series from Mombasa in CM, with dorsal streaking only slightly better defined than in extreme specimens of *heterophrys*. UMMZ 157562, however, was annotated by Storer as “too streaked for *heterophrys*” and identified as *fischeri* by Traylor. It is a very worn 20 May bird and does, indeed, resemble that race, but from its southern locality it is more plausibly interpreted as representing the eastern limit of *keithi*, which, at that time of year, would be expected to be in worn Alternate Plumage and inseparable from the perennial plumage of *fischeri*.

Farther north, a series from Same (YPM), about the same distance inland as Kilosa and also separated from the coast by mountains (the Usambaras), is *ukamba*, with no suggestion of introgression from *heterophrys*; the coastal plain at this latitude is much narrower than that east of Kilosa.

A single 3 August specimen from the north end of Lake Manyara (UMMZ 94961) is particularly interesting. It is just completing a molt into a plumage in which the crown and back are much like that of the late August specimens of

keithi. The tertials, however, instead of being black with sharply contrasting buff edges (varying in degree of rufescence) as in the Basic Plumage of *keithi*, have less intensely black centers, and the edgings are darker and less contrasting. In this respect they resemble those of the perennial plumage of *fischeri* and Alternate Plumage of *keithi*, in that they are not intensely black and the edgings show little contrast, but the latter are distinctly warmer, less gray in color in the Manyara bird than in *fischeri*. Lake Manyara is an area where intergradation between *keithi* and *fischeri* might be expected. Two 26 January LACo specimens are labeled "E. side Lake Manyara, 60 mi So. of Arusha." This locality is difficult to interpret, as Lake Manyara is approximately 60 miles *west*, not south of Arusha. These two specimens are typical of *fischeri* in appearance. Both are moderately worn, and both are initiating a molt on the throat. There is no molt at this time of year in *keithi* (specimens still in worn alternate plumage as late as early March), and Lynes (1930) stated that, at Tabora (ca. 120 km E of Tura, the type locality of *fischeri*), the months of June through September "seem to more or less cover the general moulting period." On the other hand, BM(NH) 1933.6.11.119, from Ndembezi, Sinyanga [=Shinyanga], ca. 210 km N of Tura, 23 December 1933, was annotated by Lynes on 10 October 1934 as "(nearly ad.) ♂ completing m.[oult] to first S.[ummer plumage]". Clearly there is much yet to be learned about the molts of *Cisticola chiniana*, especially in areas where subspecies typified by seasonal plumages, such as *keithi*, may intergrade with those having only a perennial plumage, such as *fischeri*.

I have seen no specimens from areas of Tanzania where intergradation between *keithi* and *procera* to the south or southeast might be expected.

A series of 8 specimens from the vicinity of Mbeya, southwesternmost Tanzania (between Lake Rukwa and the Kipengere Range at the north end of Lake Nyasa, where the map in Hall and Moreau [1970] shows a gap in the range of *chiniana*; see map in Ripley and Heinrich 1966, where the lake is spelled "Rukwe") cannot be assigned to any known race of *Cisticola chiniana*. White (1962) included "South-west Tanganyika (Rukwa)" in the range of *C. c. fortis* Lynes; this is based on his earlier brief footnote (White, 1960), which reads, in its entirety: "*C. c. fortis* occurs at rukwa [*sic*]; one specimen examined since writing this note." I have been unable to discover where this specimen is housed. Britton (1980) assigned "SW Tanzania between Lakes Rukwa and Tanganyika" to *fortis*. It is not clear whether this was taken on White's authority (based on one specimen), or additional specimens seen by Britton or one of his collaborators. In any case, the Mbeya series is utterly unlike *fortis* specimens taken at the same time of year in inland Angola, where the type locality of *fortis* lies. The Mbeya series is most closely related to *keithi* and *fischeri*. Lake Rukwa is so close to the collecting localities of the YPM series as to make it difficult to believe that two such different races of *chiniana* can be found so close together. There are two possible explanations. One is that White erred in extending the range of *fortis* as far east as Lake Rukwa. I cannot believe, however, that White would have identified as *fortis* a Rukwa specimen that resembled the Mbeya series. An alternative explanation is that *fortis* is, as originally described by Lynes (1930), a full species, overlapping in range with *C. chiniana* subsp. in the vicinity of Lake Rukwa. Certainly *fortis* is distinct in appearance; it differs from *all* races of *chiniana* in having the white of the underparts greatly reduced, with the gray area of the sides and flanks more extensive medially, even meeting or almost so across the breast (suggested in Lynes's plate 11). It completely lacks streaks on the back, resembling in this respect

the geographically distant *C. c. heterophrys*. The latter, however, has the typical *chiniana* amount of white on the underparts, and also has a fairly distinct superciliary line, lacking in *fortis*. The differences between *fortis* and the possibly sympatric population of *chiniana* are much greater than between *fortis* and *heterophrys*. Against the theory that *fortis* is not a race of *chiniana* is the later paper of Lynes (1934a:24), in which, after extensive experience with *fortis* in the field, he stated “. . . now that it is known in life, [it] proves to be no more than a race of *chiniana*. There is no mistaking the *chiniana* behavior of the bird . . .” Writing of the two plain-backed forms *fortis* and *heterophrys* in relation to streaked-backed races of *chiniana*, Traylor (letter of 6 November 1986) stated that “people who know them in the field consider them identical behaviorally.” It is obvious that White’s (1960) statement about the gap in southwestern Tanzania of our knowledge of the forms of *Cisticola chiniana* is still largely true; clearly more collecting needs to be done. Meanwhile, the distinctive population represented by the YPM series may be called:

***Cisticola chiniana mbeya*, new subspecies**

Holotype.—YPM 93268, adult male just completing prealternate molt. Collected ca. 20 mi ENE of Mbeya, Southern Highlands Province, Tanzania (elevation 1800 m), 28 December 1962, by Gerd Heinrich (field no. 36151).

Diagnosis.—“Summer” (=Alternate) plumage similar to those of *keithi* and *fischeri* dorsally, but averaging slightly darker, especially on the crown. Underparts in general purer white, without buffy wash. Sides and flanks much grayer, with buff tinge confined to posteriormost flanks. “Pectoral patch” of Lynes (1930) (a darker pigmented area near the anterior end of the pigmented sides, extending farther medially) more prominent. Differs from *procera*, the next race to the southeast, in being much less rufescent dorsally, including crown, back, wing edgings, and tail; dorsal streaks much heavier, flanks grayer, and pectoral patch more prominent. All of the series of *mbeya* is in late stages of the molt, and several, including the holotype, have a few worn feathers remaining that indicate that this race has a bright “winter” plumage like that of *keithi*, and does not exhibit the “perennial mode” of Lynes.

Range.—Known only from the vicinity of Mbeya and Chimala, Southern Highlands Province, southwestern Tanzania (elevation 1400–1800 m).

Etymology.—Named for the type locality.

Apalis jacksoni

White (1962) recognized only two subspecies of this species, the nominate race and the distinctive *A. j. bambuluensis* Serle from the Bamenda highlands of Cameroon. Traylor (1986) also admitted *A. j. minor* Ogilvie-Grant for the isolated population from the lowlands of southern Cameroons; this race was also recognized by Bannerman (1953) and by Mackworth-Praed and Grant (1973), although the latter authors apparently did not examine specimens; Louette (1981) followed White in considering the Cameroon lowland population inseparable from nominate *jacksoni*. I have not been able to examine specimens to verify the alleged narrower black throat patch of *minor*, but the measurements presented by Ogilvie-Grant (1917) in his original description certainly suggest that *minor* is indeed significantly smaller than *jacksoni*, with (in small series) no overlap in either wing or tail measurements.

The population of northern Angola was described by Meise (1958) as *A. j. albimentalis*, characterized as having more white on the chins of females and

generally lighter color (but with deeper golden underparts). Traylor (1962) compared two adult males, an adult female, and a juvenile from Angola with four males and seven females from Kenya, and found the only difference between the two series to be slightly darker, more greenish (not deeper gold) underparts in the Angola males. He later (Traylor, 1986) formally synonymized *albimentalis* with nominate *jacksoni*. I have examined the two females from N'Dalla Tando, Angola, in the AMNH collection, the same specimens mentioned by Chapin (1953:297); three of the four FMNH Angola specimens seen by Traylor (1962); and a series of three adult males and four adult females from YPM; see Ripley and Heinrich (1966) for localities and map. This is a larger series of Angola specimens than has been assembled by any previous worker. Comparison of these specimens with an ample series from East Africa indicates that *albimentalis* is a recognizable subspecies, although the alleged character that gave it its name is not valid. In both sexes (especially in males), the underparts of Angola birds are brighter yellow (*contra* Traylor) than in those of East Africa, with less invasion toward the midline of the duskier color of the flanks. The throat patch (black in males, gray in females) extends slightly farther caudad, especially in females; depending on preparation, this gives the appearance of the yellow of the breast extending slightly farther anteriorly on each side of the throat patch. The green of the dorsum of Angola specimens is distinctly brighter and yellower (less grayish) in both sexes. The gray crown of Angola males is paler than in Kenya *jacksoni*, but little different from that of Uganda males (see beyond); the crown color of females is paler than in either Kenya or Uganda specimens. The extent of the black or blackish face mask is variable in both sexes.

Like so many other African highland birds, *Apalis jacksoni* has isolated populations in Kenya and in western Uganda and adjacent Rwanda and Burundi (see Hall and Moreau, 1970: map 216). The western birds differ in series from true *jacksoni* of Kenya and eastern Uganda (type locality Mt. Elgon) as follows:

Males: crown, wing coverts and tertials paler gray, less blackish; black facial mask averaging less extensive, generally not extending above eye, whereas the eye is completely surrounded by black in Kenya males; dorsum slightly brighter, yellower green.

Females: difference in color of crown, wings and back less noticeable but present; the area of the male's mask (ear coverts to lores) tending to be uniform with the crown rather than contrastingly blacker.

Color of the underparts is too variable to permit its use in identifying individual specimens, but there is a tendency in Kenya males for the duskier color of the flanks to expand toward the midline, reducing the amount of pure yellow.

The characteristics of the western Uganda specimens strongly suggest an approach to *albimentalis* of Angola. However, a series of eight males and one female from Baraka, west of northern Lake Tanganyika, Zaire (AMNH), is not the same as the form from western Uganda, but is, if anything, even darker than Kenya *jacksoni*. Chapin (1953:297) has already commented briefly on this series.

It is apparent that Traylor's and especially White's treatment of *Apalis jacksoni* is oversimplified, and that a full scale revision, bringing together all available material from throughout the range of the species, is highly desirable.

Apalis porphyrolaema

White (1962) and Traylor (1986) synonymized *Apalis affinis* Ogilvie-Grant, from Ruwenzori, with the nominate race from the Kenya highlands, but it was recognized as a valid race of *porphyrolaema* by Jackson (1938) and Chapin (1953:

287). The only color character mentioned for *affinis* has been its darker reddish-brown throat patch. Comparison of the composite AMNH/CM series of three adults and one juvenile from Ruwenzori with 19 adults and two juveniles of *porphyrolaema* from Kenya supports recognition of *affinis*; an even better character than the throat patch is the color of the gray underparts—much paler (whiter) in *affinis*, thus accentuating the slightly darker throat. There is no discernable difference in the color of the upperparts.

CM 145902, an adult female, was collected on 3 August 1960 by A. C. Twomey and John Williams in the Impenetrable Forest, Kigezi, Uganda. It is a typical example of *affinis*, extending the known range of that subspecies slightly to the south.

Apalis cinerea

Several Fernando Poo endemic subspecies are also resident on Cameroon Mountain, on the adjacent mainland. Bannerman (1939) specifically stated that this was not true of *Apalis cinerea sclateri* (Alexander). He considered specimens from Cameroon Mountain to be the same as *A. c. cinerea* (Sharpe) from East Africa (type locality Mt. Elgon). Those from elsewhere in Cameroon he identified as *A. c. funebris*, a supposedly dark race that he had described himself three years earlier. Serle (1950) compared a series of 30 skins from "British Cameroons" with the BM(NH) material, including types, of *cinerea*, *funebris*, and *sclateri*. He showed that "*funebris*" was based on a worn, dirty holotype, and that his new series of topotypes was not separable from *cinerea*. He called all Cameroon birds *A. c. cinerea*, and in this he was followed by White (1962), Louette (1981), and Traylor (1986). Of Searle's 30 specimens, however, only one was from Cameroon Mountain. As he stated that there was considerable variation in his series in the amount of buff on the underparts and in the shade of brown on the head, it is highly likely that the distinctiveness of his solitary non-inland specimen escaped him.

The Carnegie Museum of Natural History has two specimens of *Apalis cinerea* (CM 106345, 106362) from Buea, on the slope of Cameroon Mountain. These are completely outside the range of variation in the combined CM and AMNH East African series of 87 *A. c. cinerea*. On the other hand, they agree exactly with AMNH 598672 from Fernando Poo (*sclateri*) in the intensity of buff color on the underparts, and in having the crown much grayer, less brown, resulting in less contrast between the crown and the slate-gray black. In most East African specimens, the area below the eye from the ear coverts to the base of the bill is noticeably blacker than the crown, resulting in a masklike appearance. This is much less conspicuous in the two Buea and one Fernando Poo specimens.

After the above comparisons were made at AMNH, I examined two specimens from the FMNH, taken at 5900 ft elevation on Cameroon Mountain. These are somewhat intermediate, but are clearly closer to *sclateri* than to *cinerea*. FMNH 95803 has the heavily pigmented underparts typical of *sclateri*, but in the contrast of brown cap with gray back it approaches *cinerea*. FMNH 95802 is less heavily pigmented below, matching a few extreme specimens of *cinerea*, but has the grayish, non-contrasting cap of *sclateri*. As in the Buea and Fernando Poo specimens, there is little or no indication of a dark facial mask at the lower edge of the brown cap.

On the basis of the specimens examined, I have no hesitation in assigning the

Cameroon Mountain population of *Apalis cinerea* to *A. c. sclateri* and not to the nominate race.

Sylvietta leucophrys

Chapin (1953) and other authors have generally recognized two subspecies of this little warbler of montane forests. The populations of the Kenya highlands and easternmost Uganda (type locality Mt. Elgon, on the Kenya/Uganda border) and that of the Ruwenzori Mountains of the Uganda/Zaire border are assigned to the nominate race. The name *S. l. chloronota* Hartert (type locality forest NW of Baraka, near Lake Tanganyika, Zaire) is used for the populations from "Mountains west of Lake Edward, the Kivu Volcanoes, and highlands of Kigezi District, south to the vicinity of Baraka and to the Kungwe-Mahare highlands east of Lake Tanganyika" (Chapin, 1953:252). In addition, White (1962) and Traylor (1986) considered the well-marked *S. chapini* Schouteden of the Lendu Plateau, Zaire, which lacks the distinctive white superciliary of *S. leucophrys*, as a subspecies of the latter species. Study of the combined AMNH/CM series of 62 skins of *Sylvietta leucophrys* (excluding *chapini*) indicates that some modification needs to be made in the range statements.

Specimens of this species from the areas attributed to *S. l. chloronota* by Chapin (1953:252) are by no means uniform. The subspecies is generally said to be characterized by a greenish rather than brown dorsum, and by having the brown of the postocular line extending downward on the cheeks. The latter character is not as consistent as is back color. In Kenya specimens of *leucophrys* the postocular line is variable, but usually rather broad. In about one-third of the specimens, the adjacent cheeks are slightly stained with brown. Among six topotypes of *chloronota* from Baraka, the postocular line is broad, with a variable extension of brown onto the cheeks. The two specimens with the least development of this character state could be matched with extreme examples in the Kenya series. There is an additional, previously unmentioned character for distinguishing *chloronota* and *leucophrys*. In the latter, the posterior flanks are pale gray, contrasting abruptly with the greenish yellow under tail coverts. In *chloronota* the gray of the flanks is much mixed with greenish on the posterior half of the body, leading to the color of the under tail coverts.

Typical *chloronota* occurs from Baraka north, west of Lake Tanganyika, the Ruzizi River, and Lake Kivu. As mentioned by Chapin (1953:252), a specimen he collected at 8100 feet on Mt. Nyemilima, northwest of Lake Edward, is referable to *chloronota*. However, two AMNH specimens from "Kagera, Kivu, 2400 m" and one from "NW slope Mt. Millens, Kivu Distr., 7900'," appear to be intergrades between the two subspecies. The highly variable series from Kigezi (4 AMNH, 4 CM), an area attributed to *chloronota* by Chapin, must also be considered to be intergrades, a status already suggested by the fact that Stuart Keith and John Williams independently labeled their specimens as "*chloronota*" in quotation marks.

A series of nine specimens collected by W. Doherty from October 1900 to March 1901 (AMNH) at "Escarpment, Kikuyu Mts., 8000-9000'," appears to differ from other Kenya material of *leucophrys* in being very heavily instead of lightly washed with brown on the underparts. However, they are poorly made, understuffed skins and are apparently stained, so the significance of this color

difference is dubious. Specimens from nearby Molo do not differ from those from other localities in Kenya.

As mentioned above, the population of this species in the rather isolated Ruwenzori range has been attributed to the nominate race. A series of nine specimens from Ruwenzori and the nearby Mpanga Forest shows that this population, not unexpectedly, is separable from *leucophrys*. It may be called:

Sylvietta leucophrys arileuca, new subspecies

Holotype.—CM 145398, adult female, from the Mpanga Forest, Fort Portal, Toro, Uganda, elevation 5000 feet, collected 20 July 1960 by A. C. Twomey and John Williams (field no. 1094).

Diagnosis.—Differs from both nominate *leucophrys* and *chloronota* in having a much broader superciliary line, which is pure white rather than slightly stained with brownish (especially at the posterior end), and extends farther posteriorly. The underparts are paler and purer gray than in any other population, and the midabdominal area is pure white or nearly so rather than the same gray as the rest of the underparts. The back color is somewhat variable, but tends to be closer to the greenish of *chloronota* than to the brown of *leucophrys*. The postocular line is narrow; all but one of the eight adult specimens have this line narrower than in any other specimens examined.

The CM series includes 7 specimens of *leucophrys*, 4 of *leucophrys-chloronota* intergrades, and 3 of *arileuca* that have soft-part color annotations on the labels. The bills of the *leucophrys* series are annotated as "flesh-brown" (J. Williams) or "grey horn" (A. Forbes-Watson). The intergrades are annotated as "dark horn, lower mandible flesh" or "flesh-horn, lower mandible paler" (Williams). The *arileuca* specimens are labeled "bill horn [or dark horn], lower mandible flesh-white" (Williams). The dried bills of the *leucophrys* series support the lack of mention on their labels of a paler lower mandible, and the *arileuca* series has the palest bills of all; even the one specimen whose upper mandible is described as "dark horn" has *both* mandibles paler than those of any of the *leucophrys* or *leucophrys-chloronota* intergrade series. It appears likely that a paler bill is another subspecific character of *arileuca*.

Range.—Known only from the Ruwenzori range on the Zaire/Uganda border and the nearby Mpanga Forest, south of Fort Portal, Toro, Uganda.

Etymology.—From the Greek, *ari*-, meaning very, and *leukos*, meaning white, referring to the broad white superciliary line and white midabdomen that characterize this subspecies.

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